

**REMARKS/ARGUMENTS*****Brief Summary of Status***

Claims 1-13, 23-38 and 64-80 are pending in the application.

Claims 1-13, 28-38 and 64-80 are allowed.

Claims 23-26 are rejected.

Claims 27 is objected to.

***Claim rejections - 35 U.S.C. § 103***

In the above-referenced office action, the Examiner asserts the following:

“3. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (US 2004/0162037 A1) in view of Ketchum et al (US 2003/0235255 A1).” (office action, Part of Paper No./Mail Date 20090626, p. 2)

The Applicant respectfully traverses.

The Applicant includes Ketchum in an attempt to overcome the deficiencies of Shpak. The Applicant respectfully asserts that the inclusion of Ketchum fails to overcome the deficiencies of Shpak.

The Examiner equivalences the Applicant’s first gain to scale the received frame to a range that is appropriate for a majority of the PHY receivers with “Ketchum’s  $V^H$  matrix” employed at the transmitter (i.e., before the signal is launched into the communication channel), and the Examiner equivalences the Applicant’s second gain to scale the received frame to a range that is appropriate for the intended PHY receiver with “Ketchum’s U matrix” employed at the receiver (i.e., after the signal has been received from the communication channel).

The Applicant does not agree with such equivalency of these elements as asserted by the Examiner.

With respect to independent claim 23, the Applicant respectfully asserts that the Applicant claims subject matter including, among other subject matter limitations, that the frame of data is received from a communication channel and that the method is performed within a communication device.

All operations performed within independent claim 23 are performed within a communication device.

In contradistinction, as the Examiner acknowledges, the operations corresponding to “Ketchum’s  $V^H$  matrix” are performed at the transmitter (i.e., before the signal is launched into the communication channel) and the operations corresponding to “Ketchum’s  $U$  matrix” are performed at the receiver (i.e., after the signal has been received from the communication channel). These operations are necessarily performed using two separate and distinct communication devices (i.e., a transmitter and a receiver) that are located at opposite ends of the communication channel.

Moreover, the Applicant respectfully points out that the Applicant’s claimed first gain and second gain, used respectively to perform separate and distinct scaling of the received frame, each have separate and distinct properties.

For example, the Applicant’s first gain is operative to scale the received frame to a range that is appropriate for a majority of the PHY receivers. Also, the Applicant’s second gain is operative to scale the received frame to a range that is appropriate for the intended PHY receiver.

In other words, each of Applicant’s claimed first gain and second gain, used respectively to perform separate and distinct scaling of the received frame, each have separate and distinct properties (i.e., “to a range that is appropriate for a majority of the PHY receivers” and “to a range that is appropriate for the intended PHY receiver”, respectively).

In independent claim 23, the Applicant’s claimed method is performed within a communication device that includes the plurality of PHY receivers (that includes the one intended PHY receiver). Each of the Applicant’s claimed first gain and second gain are selected based on properties associated with the plurality of PHY receivers within the communication device.

In contradistinction, the columns of “Ketchum’s  $V^H$  matrix” are the “steering vectors” employed “to precondition the modulation symbol streams at the transmitter”. (see Ketchum, paragraph [0062]). “Ketchum’s  $V^H$  matrix” does not appear to be operative to scale the received frame to a range that is appropriate for a majority of the PHY receivers within a communication device. In fact, “Ketchum’s  $V^H$  matrix” is not

even employed on a received signal, but rather is employed for use on a signal processed within a transmitter before it is even sent over a communication channel.

Also, in contradistinction, the columns of “Ketchum’s U matrix” are the “steering vectors” employed “to condition the received symbol streams at the receiver”. (see Ketchum, paragraph [0062]). “Ketchum’s U matrix” does not appear to be operative to scale the received frame to a range that is appropriate for the intended PHY receiver, and “Ketchum’s U matrix” is not employed within the very same communication device in which “Ketchum’s  $V^H$  matrix” is employed.

Together, “Ketchum’s  $V^H$  matrix” and “Ketchum’s U matrix” “are used to orthogonalize the symbol streams on the eigenmodes at each frequency  $f_k$ . (see Ketchum, paragraph [0062]). “Ketchum’s  $V^H$  matrix” and “Ketchum’s U matrix” do not appear to have any specificity or relationship to scale the received frame to a range that is appropriate for a majority of the PHY receivers within a communication device and to scale the received frame to a range that is appropriate for the intended PHY receiver, respectively, in accordance with the subject matter as claimed by the Applicant.

The Applicant respectfully asserts that “Ketchum’s  $V^H$  matrix” and “Ketchum’s U matrix” are not employed within a communication device as Applicant’s first gain and second gain are, and “Ketchum’s  $V^H$  matrix” and “Ketchum’s U matrix” do not perform any scaling in accordance with the subject matter as claimed by the Applicant in independent claim 23. “Ketchum’s  $V^H$  matrix” and “Ketchum’s U matrix” do not appear to have any specificity or relationship to scale the received frame in accordance with the subject matter as claimed by the Applicant.

The Applicant respectfully asserts that the inclusion of Ketchum fails to overcome the deficiencies of Shpak with respect to independent claim 23.

The Applicant respectfully asserts that Shpak and Ketchum, when considered individually or together, fails to teach and disclose the subject matter as claimed by the Applicant in these claims.

In view of at least these comments made above, the Applicant respectfully believes that independent claim 23 rejected above is patentable over these cited references.

The Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter as claimed in allowable independent claims, respectively, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejections of these claims.

***Allowable Subject Matter***

In the above-referenced office action, the Examiner asserts the following:

“4. Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.” (office action, Part of Paper No./Mail Date 20090626, p. 6)

The Applicant respectfully traverses.

The Applicant respectfully asserts that independent claim 23 is allowable.

The Applicant respectfully believes that this dependent claim objected to above, being a further limitation of the subject matter as claimed in an allowable independent claim, is also allowable.

In the above-referenced office action, the Examiner asserts the following:

“Claims 1-13, 28-38 and 64-80 are allowed.” (office action, Part of Paper No./Mail Date 20090626, p. 6)

The Applicant respectfully agrees that these claims are allowable.

The Applicant respectfully believes that the pending claims are in condition for allowance and respectfully requests that they be passed to allowance.

The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present U.S. utility patent application.

RESPECTFULLY SUBMITTED,  
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